

Attorney Docket No.: 0150139

REMARKS

Prior to the present amendment, claims 1-12, 14-18, and 20-21 were pending in the present application, and remain in the present application after the present response. Reconsideration and allowance of pending claims 1-12, 14-18, and 20-21 in view of the following remarks are requested.

A. Rejection of Claims 1-21 under 35 USC §102(b)

The Examiner has rejected claims 1-12, 14-18, and 20-21 under 35 USC §102(b) as being anticipated by U.S. patent number 6,452,249 B1 to Maeda et al. (hereinafter "Maeda"). For the reasons discussed below, Applicants respectfully submit that the present invention, as defined by independent claims 1, 10, and 17, is patentably distinguishable over Maeda.

The present invention, as defined by independent claim 1, recites, among other things, an active shield situated in a silicon substrate, a salicided active region situated in the silicon substrate and situated adjacent to at least one side of the active shield, where the active shield has a first conductivity type and the salicided active region has a second conductivity type. As disclosed in the present application, in one embodiment, active shield 108, which includes a number of fingers (e.g. fingers 114a through 114g), is formed in well 104, which is formed in substrate 102. As disclosed in the present application, active shield 108 is surrounded by salicided active region 106, which is formed in well 104. In one embodiment, active shield 108 has P type conductivity while

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well 104 and salicided active region 106 each have N type conductivity. As disclosed in the present application, inductor 252 is formed an interconnect metal layer in the semiconductor die and situated over active shield 108.

Active shield 108, which is electrically connected to ground in the semiconductor die, provides a clearly defined AC ground for inductor 252 so as to effectively terminate the electric field generated by inductor 252. Also, by connecting salicided active region 106, which surrounds active shield 108, to a voltage source greater than or equal to ground, the "PN" junction formed between active shield 108 and well 104 can be reverse or zero biased, which advantageously minimizes leakage current flowing between active shield 108 and well 104 and shunts to AC ground any RF noise injected into well 104 by inductor 252.

In contrast to the present invention as defined by independent claim 1, Maeda does not teach, disclose, or suggest an active shield situated in a silicon substrate, a salicided active region situated in the silicon substrate and situated adjacent to at least one side the active shield, where the active shield has a first conductivity type and the salicided active region has a second conductivity type. Maeda specifically discloses PG (perforated ground) shield 101 including a plurality of doped SOI regions 21, where each SOI region 21 has an L-shape and includes overlying silicide film 31. *See, e.g.,* Figure 1 and related text of Maeda. Maeda also discloses that the shield layer can comprise a first group of SOI regions of a first conductivity type and a second group of SOI regions of a second conductivity type, where the first group of SOI regions and the second group of SOI

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regions are combined to constitute a plurality of diodes. *See, e.g.,* Maeda, column 3, lines 36-50.

However, in Maeda, the first group of SOI regions, which have a first conductivity type, and the second group of SOI regions, which have a second conductivity type, are both part of the PG shield. For example, Maeda further discloses PG shield 106 including SOI regions 271 to 279, where SOI regions 272 and 276 are N⁺ regions, SOI regions 274 and 278 are P⁺ regions, and SOI regions 271, 273, 275, 277, and 279 are N⁻ regions. *See, e.g.,* column 27, lines 22-25 and Figure 20 of Maeda. However, SOI regions 271 to 279 are part of PG shield 106. In contrast, independent claim 1 specifies active shield having a first conductivity type and a salicided active region situated adjacent to (i.e. not a part of) at least one side of the active shield, where the salicided active region has a second conductivity type. Thus, as specified in independent claim 1, the active shield, which has a first conductivity type, and the salicided active region, which has a second conductivity type, are two distinct structures.

Thus, Maeda discloses a structure that is substantially different than the structure as specified in independent claim 1. In particular, Maeda fails to teach, disclose, or remotely suggest an active shield situated in a silicon substrate, a salicided active region situated in the silicon substrate and situated adjacent to at least one side the active shield, where the active shield has a first conductivity type and the salicided active region has a second conductivity type, as specified in independent claim 1.

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For the foregoing reasons, Applicants respectfully submit that the present invention, as defined by independent claim 1, is not taught, disclosed, or suggested by Maeda. Thus, independent claim 1 is patentably distinguishable over Maeda and, as such, claims 2-9 depending from independent claim 1 are, *a fortiori*, also patentably distinguishable over Maeda for at least the reasons presented above and also for additional limitations contained in each dependent claim.

Independent claims 10 and 17 include similar limitations as independent claim 1. Additionally, independent claims 10 and 17 specify an active shield and a salicided active region situated in a well in a substrate, where the salicided active region is situated adjacent to at least one side of the active shield. Maeda discloses well region NW underlying doped regions 121 of PG shield 301. See, for example, Figure 40 and related test of Maeda. However, Maeda fails to teach, disclose, or remotely suggest an active shield situated in a well in a substrate, a salicided active region situated in the well and situated adjacent to at least one side of the active shield, where the active shield has a first conductivity type and the salicided active region has a second conductivity type, as specified in independent claims 10 and 17.

For the foregoing reasons, Applicants respectfully submit that the present invention, as defined by independent claims 10 and 17, is not taught, disclosed, or suggested by Maeda. Thus, independent claims 10 and 17 are patentably distinguishable over Maeda and, as such, claims 11-12 and 14-16 depending from independent claim 10 and claims 18 and 20-21 depending from independent claim 17 are, *a fortiori*, also

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patentably distinguishable over Maeda for at least the reasons presented above and also for additional limitations contained in each dependent claim.

B. Conclusion

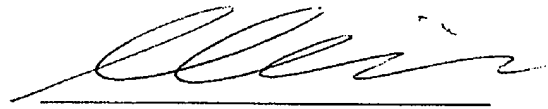
Based on the foregoing reasons, the present invention, as defined by independent claims 1, 10, and 17 and claims depending therefrom, is patentably distinguishable over the art cited by the Examiner. Thus, claims 1-12, 14-18, and 20-21 pending in the present application are patentably distinguishable over the art cited by the Examiner. As such, and for all the foregoing reasons, an early allowance of claims 1-12, 14-18, and 20-21 pending in the present application is respectfully requested.

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Respectfully Submitted,
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